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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,062	01/11/2002	Richard N. Marsh	P1396	2792

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EXAMINER

BENENSON, BORIS

ART UNIT PAPER NUMBER

2836

DATE MAILED: 04/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/046,062	Applicant(s) MARSH ET AL.	
	Examiner Boris Benenson	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 12 March 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

***Detailed Actions***

1. Amendment received on 3/12/2004 is entered.

***Specification***

2. Paragraphs 0006-0008, 0019 and 0021 are replaced.  
Objections to the disclosure are withdrawn.

***Claims***

3. Claims 103, 6-7, 9, 11, 13-14, 16-18 are amended.

Claims 1-19 are pending in the application.

Objections to Claims 1,4,19 are withdrawn.

***Response to the arguments***

4. Applicant argues in reference to rejection of Claim 11 under 35 U.S.C. 112 first paragraph that the action of over-voltage protection circuits 2 and 3 occurs so rapidly that the disconnection of line and neutral outputs is practically simultaneous and that removal of reference " simultaneous" makes Claim 11 allowable. The argument is not convincing. In opinion of Examiner the thermal fuse (TF6) is exposed to sum of currents flowing through MOV2 ( $I_{mov3}$ ) and a current flowing through a load ( $I_{load}$ ). The thermal fuse (TF3) is exposed to additional current ( $I_{mov2}$ ). The ratings for TF3 and TF6 are equal - 15A, as indicated on Figure 1, therefore it is reasonable to expect that

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the thermal fuse TF3 will open first and interrupt all currents (Imov2, Imov3 and Iload). Moreover Applicants did not disclose to what MOVs thermal fuses TF3 and TF6 have thermal contact to (are they coupled as MOV2 - TF3 and MOV3 - TF6 or in some different arrangements?) Described action of the protection circuit will provide an over-voltage protection to the load, but will not disrupt distribution the hot line as an output voltage, as required by Claim 11. The rejection of Claim 11 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement stays.

5. Applicant argues in reference to rejections of Claims 1-19 under 35 U.S.C. § 103 that "the claimed invention comprises two over-voltage protection circuits disposed between the hot and neutral lines neither taught nor suggested by Lee. In fact, the second over-voltage protection circuit serves a different purpose than do the bi-directional silicon transient voltage suppression devices of Lee" (Page 14, Lines 10-13). Examiner completely agrees with that statement. But it was no suggestions in the rejection to modify the bi-directional silicon transient voltage suppression devices of Lee (4<sup>th</sup> stage), it was suggested according to Jeffries teachings use more than one MOV in parallel in place of MOV M1 of Lee. Moreover such arrangement is

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seen in Martenson et al. (6,040,971) that has been provided by Applicant as an example of related patents (paragraph 0007 of the Application). Applicants "disagree with the Examiner that it is obvious to replace the silicon transient suppressor circuitry of Lee with a second MOV circuit in parallel with the first MOV circuitry across the hot and neutral leads" (Page 15, Lines 18-20). Such suggestion has never been made. Examiner suggested to use more than one MOV, connected in parallel across the hot and neutral leads. It may be stated that Applicants did not disclose or claim any specific reason for two MOVs connected in parallel across the hot and neutral leads. The argument is not convincing.

The rejection is maintained.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 11 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the

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specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The Claim includes a limitation "the hot line and the neutral line are not distributed as an output voltage" in event of an over-voltage condition on the hot line. To achieve that fuse TF6 and TF3 should be open simultaneously or TF6 open before opening TF3. Figure 1 indicates that TF3 and TF6 both have 15A amperage, but TF3 is exposed to a summary current (through MOV2 and MOV3) and therefore could be open first. In such case the neutral line will be interrupted, but the hot line continue to be distributed to the output.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (4,901,183) in view of Jeffries et al. (6,055,147). Lee disclosed a surge protection device that

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comprised a first protective circuit (Fig.1, Pos. M3) disposed between a hot line and a ground line, a second protective circuit (M1) disposed between the hot line and a neutral line and third protective circuit (M2) disposed between the neutral line and the ground line whereby the hot line and the neutral line are distributed as an output voltage when the overvoltage protection circuits are functioning and, in event of an over-voltage condition, at least one of protective circuits is responding by passing a sufficient current to open a protective device (F1, F2). Lee did not disclose two over-voltage protection circuits connected in parallel between the hot line and the neutral line.

Jeffries teaches an apparatus for providing independent over-current protection to a plurality of electrical devices and transient-voltage suppression system employing the apparatus where connected in parallel "transient suppressing elements (Fig.1, Pos. 112) provide phase-to-neutral transient suppression" (Col.5, Lines 5-6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified a surge protection device of Lee (4,901,183) with teachings of Jeffries et al. (6,055,147) connecting in parallel transient suppressing elements, because

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it will allow an increase in a current capacity of the protection circuit.

Referring to Claim 7, 13 and 17, Lee teaches that "it will be understood that many modifications, such as the use of circuit breakers, manual ON/OFF switches, power indicators, failure indicators and the like, will be readily apparent to those of ordinary skill in the art" (Col.6, Lines 43-46).

Referring to Claims 2,6,9 and 14, Lee disclosed use of fast-blow fuse (Abstract) and use of circuit breakers.

Referring to Claim 3, Lee disclosed use of power indicators and failure indicators. In case of reversal a hot and neutral lines a voltage on MOV2 (between a neutral line and a ground line) will be well above expected and neutral-to ground overvoltage indicator will indirectly indicate reversal as one of possible reasons.

Referring to Claims 5, 10, 15, 18 and 19, Lee disclosed: "RFI and EMI limiting through an LC combination forming a filter circuit" (Col.3, Lines 33-34).

8. THIS ACTION IS MADE FINAL.

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action



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is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boris Benenson whose telephone number is (571) 272-2048. The examiner can normally be reached on M-F (8:20-6:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 x 36. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Boris Benenson

Application/Control Number: 10/046,062

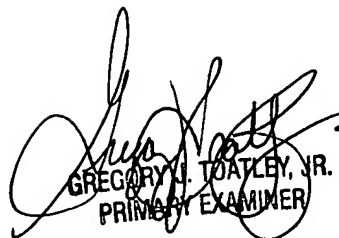
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Examiner

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B.B.

  
GREGORY J. TOATLEY, JR.  
PRIMARY EXAMINER